

Calculating Student Achievement and Ranking Schools by Achievement

Idaho's calculation of School Achievement Rankings will be done with the same creation of a z-score to standardize the scores across grade levels. To determine which schools have the highest achievement (i.e. highest median scale scores for students for a given year), the following steps will be used to calculate School Achievement:

1. A z-score will be determined for each student within a specific grade (i.e., grade 5, etc.) using the following formula:

$$z = \frac{x - \mu}{\sigma}$$

where

x = the scale score for the student

μ = the mean scale score for all schools in the target grade level

σ = the standard deviation of scale scores for all schools in target grade

2. Z-scores can have both positive and negative values, so a Standard Score was used to reduce the positive-negative confusion. The Standard Score (SS) is determined using the following formula:

$$SS = 10 z + 50$$

where

z = the student's z score computed above

10 = the standard deviation for the Standard Score distribution

50 = the mean for the Standard Score distribution

3. Steps 1 and 2 are repeated for each grade level (i.e. grades 3, 4, 5, 6, 7, 8, 9, 10) for which ISAT data is available.
4. The median Standard Score for each school is determined.
5. This process is then repeated for each of the other subject areas
6. If a school serves 5th, 7th, and/or 10th graders, the Excellence Score is calculated as Median Reading SS \times 0.3 + Median Mathematics SS \times 0.3 + Median Language SS \times 0.3 + Median Science SS \times 0.1. Otherwise, each subject is equally weighted, and the Excellence Score is calculated as Reading SS \div 3 + Median Mathematics SS \div 3 + Median Language SS \div 3).

7. Ascertain the number of certificated staff in each school, and put the schools in a three-column list (e.g., school name, Excellence Score, certificated staff) that is rank ordered by the Excellence Score.
8. Move down the ordered list creating a cumulative total of the number of certificated staff. The *Top Quarter of Schools* will be identified when the cumulative count of certificated staff is about 25% the state's total certificated staff.
9. Continue counting certificated staff down the list until the *Upper Middle Quarter of Schools* will be identified when the cumulative count reaches about 50% of the state's certificated staff.
10. Continue until the cumulative staff count reaches about 75%, which sets the *Lower Middle Quarter of Schools*.
11. The remaining schools make up the *Bottom Quarter of Schools*.